

**REMARKS/ARGUMENTS**

I. Section 112 – Lack of Enablement Rejection

Claims 1-30 are rejected as failing to comply with the enablement requirement on grounds the application does not teach to one of ordinary skill in the art how to practice the claimed invention, in particular how to derive the simulated qualification tests and implement the strategy simulator engine. The rejection is respectfully traversed. The construction of the Qualification Test Models (Fig. 1 , ref. 120) is discussed in the specification at, e.g., ¶¶ 0058-0060. Implementation of the Strategy Simulator (Fig. 3, ref. 360) is discussed in the specification at, e.g., ¶¶0036, 0048-0054, and 0075. The term Monte Carlo Simulator module is used interchangeable with Strategy Simulator (See ¶0075). Routine experimentation necessary for implementation does not negate enablement.

II. Section 101 – Subject Matter Rejection

Claims 1-30 are rejected as being directed to non-statutory subject matter. The rejection is respectfully traversed. The method of claims 1-15 and the system of claims 16-30 fall within the ‘process’ and ‘machine’ subject matter of 35 U.S.C. 101. Computer based methods of doing business are patentable subject matter.

III. Section 103 – Obviousness Rejection

A. Chen in View of Greenhouse

Claims 1, 2, 4, 8, 11-18, 19, 23, and 26-30 are rejected as being obvious over Chen in view of Greenhouse. The rejection is respectfully traversed.

1. Regarding Claims 1, 2, 16, 17:

Chen teaches a method that requires laboratory bench tests to determine “kinetic rate constants” that are specific to the engine on which the lubricant will be tested. (Chen at Abstract, lines 2-6). The kinetic rate constants are then used to make a computer-implemented “chemical kinetic model.” (Chen at Abstract, line 5-6) (“[t]he chemical kinetic model incorporates the kinetic rate constants determined for that particular lubricant in a set of special bench-test procedures tailored to a particular engine and its operating conditions.”). The only predictions that are made is the “the amount of deposit in the top ring groove and the amount of oil consumption in that engine.” (Chen at Abstract, lines 9-10). “The computer program models the engine as three chemical reactors . . . .” (Chen at Abstract, lines 12).

In contrast to the teaching of Chen which gives a predictor of passing for only predicting deposits in engine and oil consumption in the engine, the instant claims recite an “simulator engine comprises a plurality of simulated qualification tests . . . .” (claim 1(a), emphasis added) and predicting passing of all the plurality of tests – “to determine a probability of passing indicator, cost and time duration of the proposed test sequence.”) (claim 1(b), emphasis added).

In contrast to the teaching of Chen requiring laboratory testing and then making a customized model using those test results (kinetic constants) and specific to an engine, the instant claims do not restrict the computer simulation of an engine test to the results of laboratory tests. Thus, Chen teaches away from the instant invention. A reference which teaches away cannot support an obvious rejection.

Greenhouse has no teaching of computer simulated engine tests for lubricants. Nothing in Greenhouse teaches or suggests combining any teachings with the method of Chen to supply the deficiencies of Chen.

2. Regarding Claims 8 and 23:

The arguments regarding Chen and Greenhouse in the discussion above regarding “Regarding Claims 1, 2, 16, 17” are incorporated herein by reference in their entirety. There is no teaching or suggestion in Chen and Greenhouse to use the recited lubricating oil product characteristics for passing to a simulator engine.

3. Regarding Claims 4 and 19:

The arguments regarding Chen and Greenhouse in the discussion above regarding “Regarding Claims 1, 2, 16, 17” are incorporated herein by reference in their entirety. Since the only prediction made in Chen is “the amount of deposit in the top ring groove and the amount of oil consumption in that engine.” (Chen at Abstract, lines 9-10), nothing in Chen and Greenhouse teaches or suggests predicting costs and time required to pass a series of tests.

4. Regarding Claims 11-12 and 26-27:

The arguments regarding Chen and Greenhouse in the discussion above regarding “Regarding Claims 1, 2, 16, 17” are incorporated herein by reference in their entirety. There is no teaching or suggestion in Chen and Greenhouse regarding incorporating Codes of Practice into the method of product testing simulations.

5. Regarding Claims 13 and 28:

The arguments regarding Chen and Greenhouse in the discussion above regarding “Regarding Claims 1, 2, 16, 17” are incorporated herein by reference in their entirety. There is no teaching or suggestion in Chen and Greenhouse of outputting simulator results for a plurality of proposed lube oil product characteristics. Chen only teaches testing more than one actual lube oil.

6. Regarding Claims 14-15 and 29-30:

The arguments regarding Chen and Greenhouse in the discussion above regarding “Regarding Claims 1, 2, 16, 17” are incorporated herein by reference in their entirety. There is no teaching or suggestion in Chen and Greenhouse for a User Interface for incorporating Codes of Practice into the method of product testing simulations.

B. Chen in View of Greenhouse and Lampinen

Claims 5-7 and 20-22 are rejected as being obvious over Chen in view of Greenhouse and Lampinen . The rejection is respectfully traversed.

The arguments regarding Chen and Greenhouse in the discussion above regarding “Regarding Claims 1, 2, 16, 17” are incorporated herein by reference in their entirety.

Lampinen provides a general description of Neural Networks and Bayesian Networks. Nothing in Lampinen teaches or suggests combining Neural Networks or Bayesian Networks in a lube oil testing strategy simulator of the invention.

C. Chen in View of Greenhouse and Busetti

Claims 3, 5, 18, and 20 are rejected as being obvious over Chen in view of Greenhouse and Busetti. The rejection is respectfully traversed.

The arguments regarding Chen and Greenhouse in the discussion above regarding “Regarding Claims 1, 2, 16, 17” are incorporated herein by reference in their entirety.

Busetti provides a general description of genetic algorithms. Nothing in Busetti teaches or suggests combining genetic algorithms in a lube oil testing strategy simulator of the invention.

D. Chen in View of Greenhouse and Faller

Claims 9-10 and 24-25 are rejected as being obvious over Chen in view of Greenhouse and Faller. The rejection is respectfully traversed.

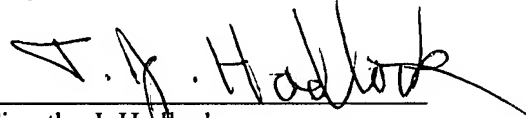
The arguments regarding Chen and Greenhouse in the discussion above regarding “Regarding Claims 1, 2, 16, 17” are incorporated herein by reference in their entirety.

Faller provides a general description of Monte Carlo simulation. Nothing in Faller teaches or suggests combining Monte Carlo simulation in a lube oil testing strategy simulator of the invention.

IV. Conclusion

From the foregoing, it is submitted that Applicants' claims 1-30 define subject matter that is statutory subject matter, enabled, novel, and nonobvious. Claims 1-30 as amended are pending. Accordingly, allowance of claims 1-30 is requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "T. J. Hadlock", written over a horizontal line.

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